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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,610	11/21/2003	Gi Hyeong Do	9988.071.00-US	8195

30827 7590 12/24/2009

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EXAMINER	
GRAVINI, STEPHEN MICHAEL	
ART UNIT	PAPER NUMBER
3743	

MAIL DATE	DELIVERY MODE
12/24/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/717,610	DO, GI HYEONG	
	Examiner	Art Unit	
	Stephen M. Gravini	3743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 July 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Prosecution on the merits of this application is reopened as claims are considered unpatentable for the reasons indicated below.

A Technology Center Director or designee must personally approve the new ground(s) of rejection set forth in this office action by signing below:

/KAREN M. YOUNG/

Director, Technology Center 3700

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2, 6, and 15 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. According to the Appeal Brief, page 2, claim 5 has been cancelled, thus claims 6 and 15, as well as claim 2, are dependent upon a cancelled claim.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

Claims 1-3 and 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krüger (US 4,412,389) in view of Wentzlaff (US 5,682,684). The claimed invention is reasonably and broadly construed, in light of the accompanying specification, to be disclosed by Krüger as comprising:

initiating a drying process at column 2 lines 18-24 wherein the disclosed beginning the early phase of a drying process with the drying system is turned on is considered to expressly anticipate the claimed drying procedure initiation because both show the initial beginning of a drying process;

measuring a temperature at column 2 lines 35-45 wherein the disclosed measuring the temperature difference is considered to expressly disclose the claimed temperature measurement because both steps measure temperature;

calculating a temperature variation rate at column 1 lines 50-65 wherein the disclosed calculating time or duration from the determined gradient is considered to expressly anticipate the claimed temperature variation rate calculation because a temperature variation rate and gradient duration calculation are the same patentable steps to those skilled in the art;

calculating a drying time based on the temperature variation rate at column 5 lines 28-57 wherein the disclosed dryer operating time calculation based on a temperature gradient of change in temperature per change in time ($\Delta\theta/\Delta t$) is

considered to expressly anticipate the claimed drying time temperature variation rate calculation time because both steps use a change in temperature per change in time which to one skilled in the art defines a temperature variation rate;

performing the drying procedure for the calculated drying time at column 5 line 59 through column 6 line 64 wherein the disclosed operating duration is considered to expressly disclose the claimed drying procedure calculated time performance because both steps operate drying based on a time duration calculated from earlier disclosed variables. Krüger also expressly discloses the claimed step of calculating a remaining drying time, wherein drying for the remaining drying time completes the drying procedure at column 6 lines 38-56 and inherently disclose the claimed steps of wherein the remaining drying time is based on a known drying pattern, the known drying pattern varying according to an amount and type of laundry at column 3 line 53 through column 4 line 64 because variable amounts and types of laundry will necessarily have different remaining drying time basis such that measure temperature/time changes will change remaining drying times. Krüger discloses the claimed invention except for the claimed steps of calculating a plurality of temperature variation rates and determining whether there is a substantial increase in the temperature variation rate as a function of the plurality of temperature variation rates. Wentzlaff , another dryer control method, discloses steps of calculating a plurality of temperature variation rates and determining whether there is a substantial increase in the temperature variation rate as a function of the plurality of temperature variation rates at column 8 lines 1-59 because the disclosed start temperature values at minute intervals and system response represent a variation

rate calculation since both measure a value and provide a response function and because the disclosed considerable higher heating determines a substantial temperature increase in variation rate, as a function of a plurality of temperature variation rates, since both are an iterative process to determine a laundry dryer control method. It would have been obvious to one skilled in the art to combine the teachings of Krüger with the steps of calculating a plurality of temperature variation rates and determining whether there is a substantial increase in the temperature variation rate as a function of the plurality of temperature variation rates, disclosed in Wentzlaff, for the purpose of applying a variable process such that an averaged measured value of air temperature during a quasi-steady-state phase to keep approximate equilibrium of heat removal from laundry by recorded and stored memory so that in making a decision as to which of the memorized process courses should be considered for the further handling of the load of laundry and a relevant decision data until the quasi-steady-state phase is reached as suggested in the summary of the invention section of Wentzlaff, especially beginning at column 3 line 43.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Krüger in view of Wentzlaff in further view of Weeks (US 3,363,326) . Krüger in view of Wentzlaff obviates the claimed invention, as rejected above, except for the claimed one degree Celsius rate excess. Weeks, another clothes dryer method, discloses a one degree Celsius rate excess beginning at column 5 line 64 through column 8 line 26. Weeks discloses a 20 minute period of 200 degrees and 142 degrees. Mathematically 58 degrees over a 20 minute period exceeds the claimed degree Celsius rate excess. It

would have been obvious to one skilled in the art to combine the teachings of Krüger in view of Wentzlaff with the one degree Celsius rate excess, disclosed in Weeks for the purpose of controlling temperature for better drying process rates affecting the desired output.

Response to Arguments

The Board decision and Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Each cited reference discloses one or more features of the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. Gravini whose telephone number is 571 272 4875. The examiner can normally be reached on normal weekday business hours (east coast time).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth B. Rinehart can be reached on 571 272 4881. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Stephen M. Gravini/
Primary Examiner, Art Unit 3743